WHAT IS CLAIMED IS:

1   1.   For use in a wireless communication network comprising at

2 least one base station and a plurality of mobile stations, an

3 apparatus for providing concurrent data transmissions from said

4 base station to said plurality of mobile stations, said apparatus

5 comprising:

6   a register unit in a base transceiver station of said base

7 station, said register unit capable of causing data packets of a

8 first data call to be concurrently transmitted during at least one

9 subframe of a data frame comprising N subframes.

1   2.   The apparatus as set forth in Claim 1 wherein said

2 register unit is capable of causing data packets of a second data

3 call to be transmitted during at least one subframe of said data

4 frame comprising N subframes other than said subframe used by said

5 first data call.

1   3.   The apparatus as set forth in Claim 2 wherein said data

2   packets of said second data call comprise an emergency message.

1   4.   The apparatus as set forth in Claim 1 wherein said

2   register unit is capable of causing data packets of a first data

3   call to be concurrently transmitted during a first subframe of a

4   data frame comprising three subframes.

1   5.   The apparatus as set forth in Claim 4 wherein said

2   register unit is capable of causing data packets of a second data

3   call to be transmitted during one of: a second subframe of said

4   data frame and a third subframe of said data frame.

1   6.   The apparatus as set forth in Claim 5 wherein said data

2   packets of said second data call comprise an emergency message.

1   7.   The apparatus as set forth in Claim 1 wherein said

2   register unit comprises:

3   a register main unit capable of receiving from said base

4   transceiver station a plurality of data packets to be transmitted

5   to a plurality of cell sectors, and capable of identifying a cell

6   sector destination for each of said plurality of data packets;

7   a register location unit coupled to said register main unit,

8   said register location unit capable of providing to said register

9   main unit information concerning said plurality of data packets;

10   and

11   a plurality of buffers coupled to said register main unit,

12   each of said plurality of buffers associated with a cell sector,

13   each of said buffers capable of receiving data packets from said

14   register main unit to be transmitted to a respective cell sector.

1   8.   The apparatus as set forth in Claim 7 wherein each buffer

2   of said plurality of buffers is capable of storing a portion of

3   data packets of a first data call in at least one subframe of a

4   data frame comprising N subframes, and capable of causing said

5   portion of data packets of said first data call to be concurrently

6   transmitted by an antenna.

1   9.   The apparatus as claimed in Claim 8 wherein each buffer

2 of said plurality of buffers is capable of storing a portion of

3 data packets of a second data call in at least one subframe of said

4 data frame comprising N subframes other than said subframe used by

5 said first data call.

1   10.   The apparatus as set forth in Claim 9 wherein said data

2 frame comprises three subframes and said plurality of buffers

3 comprises three buffers.

1 11. A wireless communication network comprising:

2 a plurality of mobile stations;

3 at least one base station capable of communicating with said

4 plurality of mobile stations;

5 wherein said at least one base station comprises an apparatus

6 for providing concurrent data transmissions from said base station

7 to said plurality of mobile stations, said apparatus comprising:

8 a register unit in a base transceiver station of said base

9 station, said register unit capable of causing data packets of a

10 first data call to be concurrently transmitted during at least one

11 subframe of a data frame comprising N subframes.

1 12. The wireless communication network as claimed in Claim 11

2 wherein said register unit is capable of causing data packets of a

3 second data call to be transmitted during at least one subframe of

4 said data frame comprising N subframes other than said subframe

5 used by said first data call.

1 13. The wireless communication network as set forth in

2 Claim 12 wherein said data packets of said second data call

3 comprise an emergency message.

1   14. The wireless communication network as set forth in

2   Claim 11 wherein said register unit is capable of causing data

3   packets of a first data call to be concurrently transmitted during

4   a first subframe of a data frame comprising three subframes.

1   15. The wireless communication network as set forth in

2   Claim 14 wherein said register unit is capable of causing data

3   packets of a second data call to be transmitted during one of:

4   a second subframe of said data frame and a third subframe of said

5   data frame.

1　　　　16. For use in a wireless communication network comprising at

2　least one base station and a plurality of mobile stations, a method

3　for providing concurrent data transmissions from said base station

4　to said plurality of mobile stations, said method comprising the

5　steps of:

6　　　　providing a register unit within a base transceiver station of

7　said at least one base station; and

8　　　　causing data packets of a first data call in said register

9　unit to be concurrently transmitted during at least one subframe of

10　a data frame comprising N subframes.

1　　　　17. The method as set forth in Claim 16 further comprising

2　the step of:

3　　　　causing data packets of a second data call in said register

4　unit to be transmitted during at least one subframe of said data

5　frame comprising N subframes other than said subframe used by said

6　first data call.

1   18.   The method as set forth in Claim 17 wherein said data

2   packets of said second data call comprise an emergency message.

1   19.   The method as set forth in Claim 16 further comprising

2   the step of:

3   causing data packets of a first data call to be concurrently

4   transmitted during a first subframe of a data frame comprising

5   three subframes.

1   20.   The method as set forth in Claim 19 further comprising

2   the step of:

3   causing data packets of a second data call to be transmitted

4   to one of: a second subframe of said data frame and a third

5   subframe of said data frame.